

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
25 August 2005 (25.08.2005)

PCT

(10) International Publication Number
WO 2005/078098 A1

(51) International Patent Classification⁷: C12N 15/12,
15/90, 15/63

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(21) International Application Number:
PCT/AU2005/000168

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(22) International Filing Date: 11 February 2005 (11.02.2005)

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,
ZW.

(25) Filing Language: English

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

(26) Publication Language: English

Published:

— with international search report

(30) Priority Data:
AU 2004900673 12 February 2004 (12.02.2004) AU

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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WO 2005/078098 A1

(54) Title: MODIFIED CELLS THAT CO-EXPRESS BLIMP1 AND A REPORTER MOLECULE AND METHODS OF USING THE SAME

(57) Abstract: In one aspect, the present invention provides a genetically modified cell or non-human organism comprising such cells comprising modified genetic material which when expressed produces a polypeptide co-expressed with a reporter molecule and wherein the polypeptide is associated with terminal differentiation of a haematopoietic cell. Preferably, the genetic material gene is a *Blimp* allele or a part, fragment or functional form thereof. Furthermore, the identification of the reporter molecule in B-cell lineage cells indicates that such cells are committed to differentiate or have differentiated into ASC. Alternatively, reporter molecule activity in cells of a T cell lineage indicates that these cells are activated. Thus, as described herein, the presence of Blimp in a lymphocyte indicates that the cell is terminally differentiated or is committed to terminal differentiation. Exemplary T-cells include CD4⁺ T-cells and CD8⁺ T-cells and exemplary B-cells are ASC.